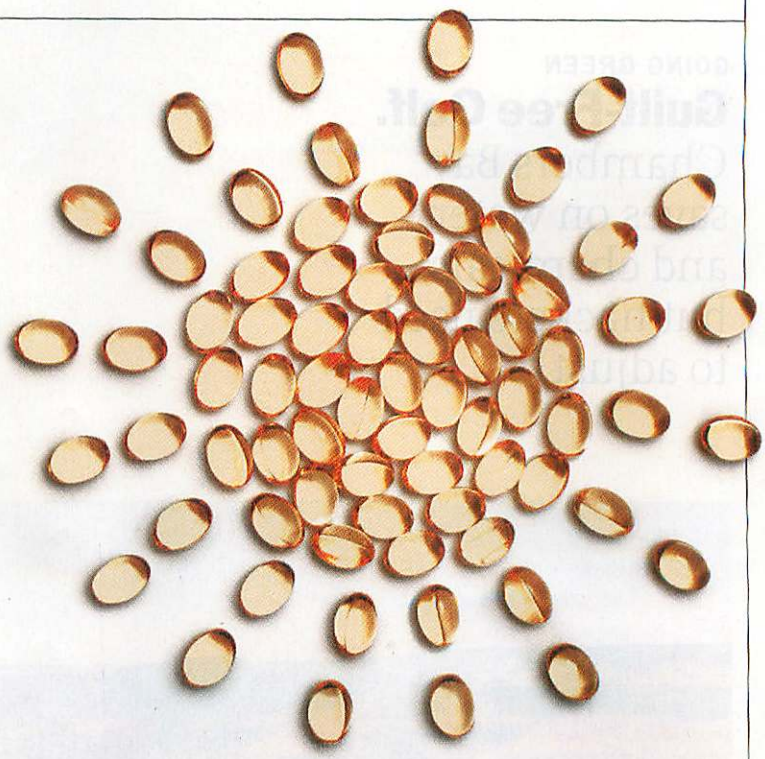
HEALTH

The Vitamin-D Debate. We are not getting enough of it, but how much is O.K.?

BY ALICE PARK

SPEND A FEW MINUTES SOAKING UP SOME RAYS AND YOUR body will start to pump out more vitamin D. Many health officials believe Americans are D-deficient, but in the age of sunblock and self-tanners, how many vitamin-D pills should we be popping? New guidelines for the optimal dietary dose are expected in the fall, and definitive studies on vitamin D's effects on cancer, heart disease and cognition are ongoing. In the meantime, here's where the science stands.



Cancer

Vitamin D may prevent cancer by suppressing the cell growth and blood-vessel formation that feed tumors. At least that's the idea, based on animal studies and analyses of human cells. But trials in which patients take vitamin D have not shown a consistent lowering of cancer risk.

One four-year trial of 1,200 postmenopausal women found a 77% lower risk of all cancers among those taking calcium and 1,000 IU of vitamin D a day than among those taking a placebo. A larger study, however, in which subjects took 400 IU of vitamin D—in the absence of an official daily recommended intake, that's the "adequate" intake for adults ages 51 to 70—did not show lower breast-cancer risk.

The data are strongest for colorectal cancer: subjects with higher blood levels of vitamin D were half as likely as those with lower levels to develop the disease.

Heart Disease

Studies on animals and human-cell cultures indicate that vitamin D has a protective effect on the heart, controlling the release of stress hormones that lead to high blood pressure and inflammation.

Studies on human subjects confirm this link. In one trial, men whose blood work showed D levels below 30 nanograms per milliliter—the amount the Institute of Medicine says adults should aim for—were twice as likely to have a heart attack than those with higher levels. The same was true for blood pressure; men and women with less circulating D were three times as likely to develop hypertension as those with more D. In another study, those with blood levels of D below 15 ng/ml had a 60% greater risk of heart disease than those with higher levels.

Autoimmunity

There is growing evidence that vitamin D, which has anti-inflammatory effects, can protect against conditions like multiple sclerosis (MS), in which the body's immune system turns against its own tissue. Population-based studies that compared vitamin-D levels among patients with MS, arthritis and lupus found less disease in those with higher blood levels of D. One study revealed that MS patients taking 14,000 IU daily for a year suffered fewer relapses than those who consumed 1,000 IU a day. The trial involved only 25 patients, however, and more studies are needed before vitamin D can become a part of preventive treatment for patients with these disorders.

Depression

While it makes intuitive sense that vitamin D might help alleviate depression—sunlight promotes release of the mood-boosting hormone serotonin—there have been few studies on its ability to lessen or control symptoms of depression. One study of overweight subjects in Norway hinted at a beneficial effect, with those taking 40,000 IU of vitamin D per week for a year scoring lower on a measure of depressive symptoms than those taking a placebo.

So why not take even bigger doses of D to try to maximize the benefit? Doctors use megadoses in deficient patients, and superloading on D has the advantage of not requiring daily adherence to a pill regimen. But the latest trial on the practice found that a single, annual oral dose of 500,000 IU had little effect even when it came to reducing risk of bone fractures, which remains the best-studied benefit of the vitamin.

DANNY KIM FOR TIME